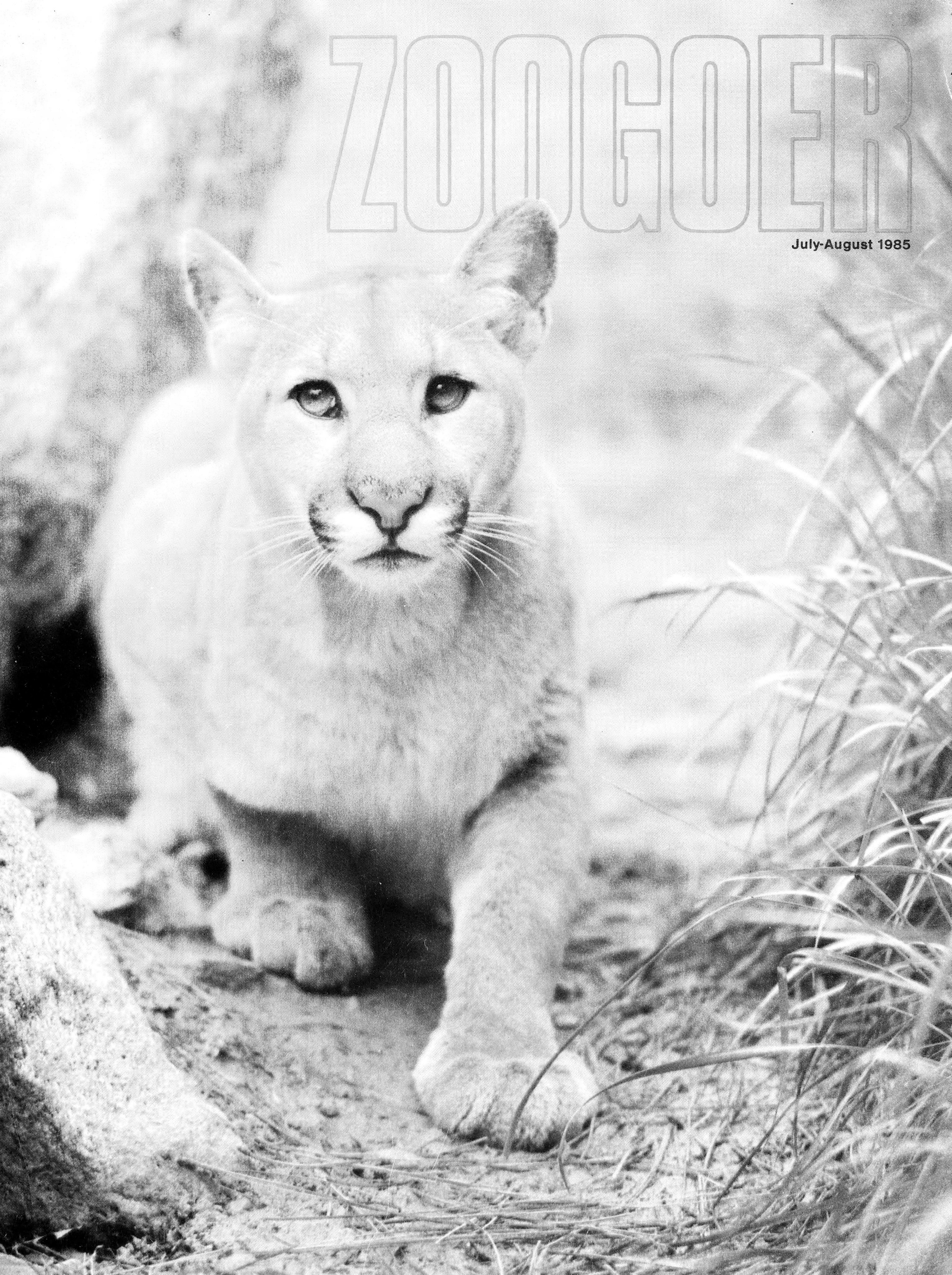


ZOOGOER

July-August 1985



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Friends of the National



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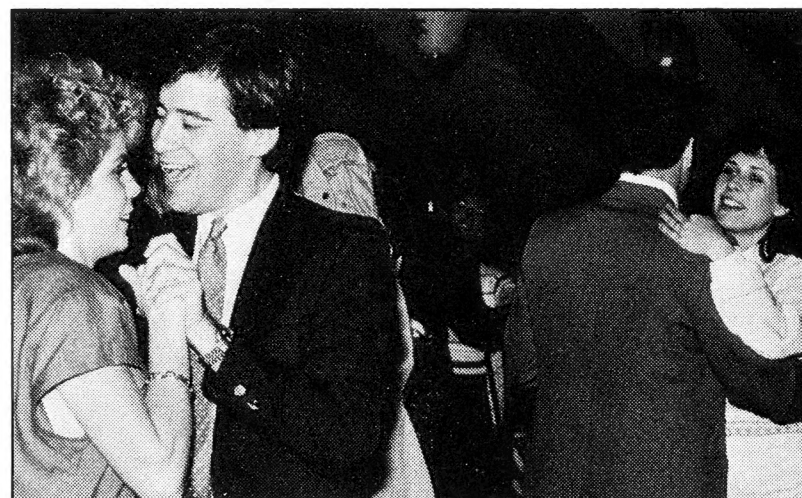
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Jessie Cohen, NZP Graphics



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Pat Vosberg

Cover

Front cover: "Magic," a female puma born at the National Zoo, enjoys a setting similar to puma habitat in Southwestern U.S. Her species is equally at home in a Brazilian rainforest, where some pumas may have found sanctuary as a result of the Zoo's Golden Lion Tamarin Project (see "Brazilian Sanctuary," p. 4). Photo by Jessie Cohen, NZP Office of Graphics and Exhibits. Back cover: An elegant Manchurian crane and two Japanese macaques graced ZooFari's artistic invitation—symbols of the benefit's Asian theme (see "A Night to Remember," p. 23).

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NEW AT THE ZOO

A realistic hornbill exhibit—complete with waterfall, pool, and nest-box—is a popular new attraction in the Bird House. Also new at the Zoo are several spring births, including a lion-tailed macaque, two acouchis, and three rock cavies in the Small Mammal House; a red kangaroo and five dorcas gazelles in the Hoofed Stock area; and a black-necked swan at the Bird House.

SUNSET SERENADES

Music and dance will enliven summer evenings at the Zoo every Thursday, July 11 to August 29, 6:30 to 8:00 p.m., near the Panda House.

Performers in the series of eight live concerts are Celtic Thunder (Jul. 11), The Smith Sisters (Jul. 18), The Piper Road Spring Band (Jul. 25), Polarities (Aug. 1), Michele Valeri and Billy B. (Aug. 8), John and James Jackson (Aug. 15), Tom Lofgren and Cathy Fink (Aug. 22), and Reuben Musgrave and The Boarding Party (Aug. 29). Admission to the Zoo's Sunset Serenades is free. For more information, call 673-4717.

CITY WILDLIFE

While thousands of species have been pushed into extinction by the expanding frontiers of human habitation, a few have adapted remarkably well to the world's most densely populated cities. How do these wild animals adapt, survive, and even thrive in human-occupied areas?

Experts will explore this question in a presentation of the National

NOTES AND NEWS

Zoo's award-winning Public Symposia Series, scheduled for the first weekend in November.

The two-day symposium on urban wildlife will give special attention to animals that have survived so successfully they have become pests. It will also look at little-known urban species, some significant species that are no longer present, and the possibility of ongoing evolution within urban wildlife populations.

The symposium will be a unique opportunity to learn about the wild animals that live around us, but about which we often know very little. For more information, and to reserve seats at the National Zoo's Fifth Annual Symposium for the Public, call 673-4840.

PANDA BREAKFAST SERVICE

Panda watchers can now enjoy fresh orange juice, bagels and cream cheese, or perhaps a chocolate glazed doughnut and coffee every morning at nine o'clock at the Zoo's Panda Plaza ice cream kiosk. On cool mornings, Ling-Ling and Hsing-Hsing may also be outdoors enjoying the fresh air and their breakfast.

LETTERS

Why haven't the newspapers mentioned an expected Panda birth this year? Are the pandas too old to have babies?

Valerie Green
Washington, D.C.

At 14 and 15 years old, Hsing-Hsing and Ling-Ling are still capable of reproducing. In China, giant pandas up to 20 years old have shown a reproductive cycle. Pandas typically mate sometime between March and June; their gestation period can range from 97 to 163 days. For the last four years, Ling-Ling's estrus occurred in March, but this year it did not.

I enjoy ZooGoer, but wish you would tell us how to pronounce the exotic animals you write about. For exam-

ple, how is wisent (March-April issue) pronounced?

James Ham
Rockville, Md.

Wisent, a European buffalo, is pronounced VEE-sent. The exotic Brazilian species mentioned in this issue (pp. 4-7) are jacana (ja-KA-na), paca (PA-ka), capybara (kap-ee-BA-ra), and tayra (TAY-ra).

You can't imagine the excitement in our household when we read in ZooGoer that the National Zoo has cusimanses. We had a cusimanse as a pet in Liberia in 1963. When we returned to the U.S. in 1964, Goosey came with us and lived for several years at the Philadelphia Zoo, so the National Zoo's cusimanses are not the first of their species to be exhibited in the U.S.

Living with Goosey was sheer joy. She had a whole vocabulary of sounds, from grunts through whistles, to signal information such as her bedtime or mealtime. She worked vigorously to keep our house free of bugs—part of her omnivorous diet—and every evening she cleaned our huge German shepherd's toes.

When we visited Goosey at the Philadelphia Zoo, she clearly knew us. I have been looking for a cusimanse for years, partly to be able to show our children. We cannot wait to visit the National Zoo's newcomers!

Susan W. Ruff
Washington, D.C.



"Goosey" and friends

Brazilian Sanctuary

Lou Ann Dietz

Last year's reintroduction into the wild of 13 zoo-born golden lion tamarins has improved the chances of survival not only for the tamarin, but also for hundreds of other species that share its habitat. Lou Ann Dietz, education coordinator for the National Zoo's Golden Lion Tamarin Conservation Project in Brazil, reports:

RIO DE JANEIRO STATE, BRAZIL

An entire ecosystem may one day owe its survival to a handful of zoo-born primates. The ecosystem is in the Poco das Antas Federal Biological Reserve in Brazil; the primates are the 13 golden lion tamarins that were reintroduced there last year.

The tamarins have captured the interest of the local populace as no other species—or conservation campaign—has ever done here. They have an almost magical gift of melting the coldest of hearts.



People are dazzled by their beautiful red-gold hair, charmed by their sprightly behavior, and intrigued by their social structure—monogamous family groups in which all members help care for the young.

We have tried to interest people in the Reserve's other animals, but our appeals for many species have fallen on deaf ears. The golden lion tamarin, however, is a different story. From schoolchildren to landowners, the Reserve's neighbors have enthusiastically embraced this tiny primate as their own. And so long as the tamarin is cherished, hundreds of other species living in the Reserve will also enjoy sanctuary.

Most Endangered Forest

Golden lion tamarins once inhabited large stretches of Brazilian coastal forest. But human population growth along the coast—which includes cities such as Sao Paulo, Rio de Janeiro, and Salvador—reduced the forest to a mere two percent of its original area, making it the most endangered tropical forest in the world. The official list of threatened species native to this forest recognizes 39 mammals, 41 birds, 14 reptiles, and one insect. However, because only small “islands” remain of the once vast Atlantic forest, it is safe to say that *all* its species are endangered—through hazards such as inbreeding, range limitations, proximity of human habitation, and vulnerability to natural disaster.

One of these islands, the 12,400-acre Poco das Antas Reserve, is typical of Atlantic forestland—rich and varied in both wildlife and terrain. Its wetlands, for example, are a haven to numerous amphibians and reptiles, including the endangered yellow throated caiman, and to a wide variety of aquatic birds—least grebes, neotropical cormorants, egrets, striated herons, roseate spoonbills, Brazilian teals, kingfishers, rails, and the long-toed jacanas that display their amazing ability to “walk on water” in marshy areas.

At the forest's edge we often see rabbits, cuckoos, the fiery-red male Brazilian tanager, and a colorful array of butterflies. Deep within the forest, turkey-sized guans perch high in the treetops, ocelots and pumas prey on abundant rodents, and the highly endangered maned sloth hides in dense vegetation.

Indeed, the wealth of wildlife that shares the tamarin's habitat is staggering. Among the hundreds of bird species, for example, are the rufous oven bird; ruddy ground dove; several species of parrots, parakeets, and toucans;

Photos, clockwise from top left: an endangered maned sloth in the Poco das Antas Reserve; “Sentinel,” a reintroduced golden lion tamarin, with the first offspring born in the wild to captive-born parents; a tropical screech owl; performance of a play about golden lion tamarin conservation; two endangered swallowtail butterflies; a tree frog.

James Dietz

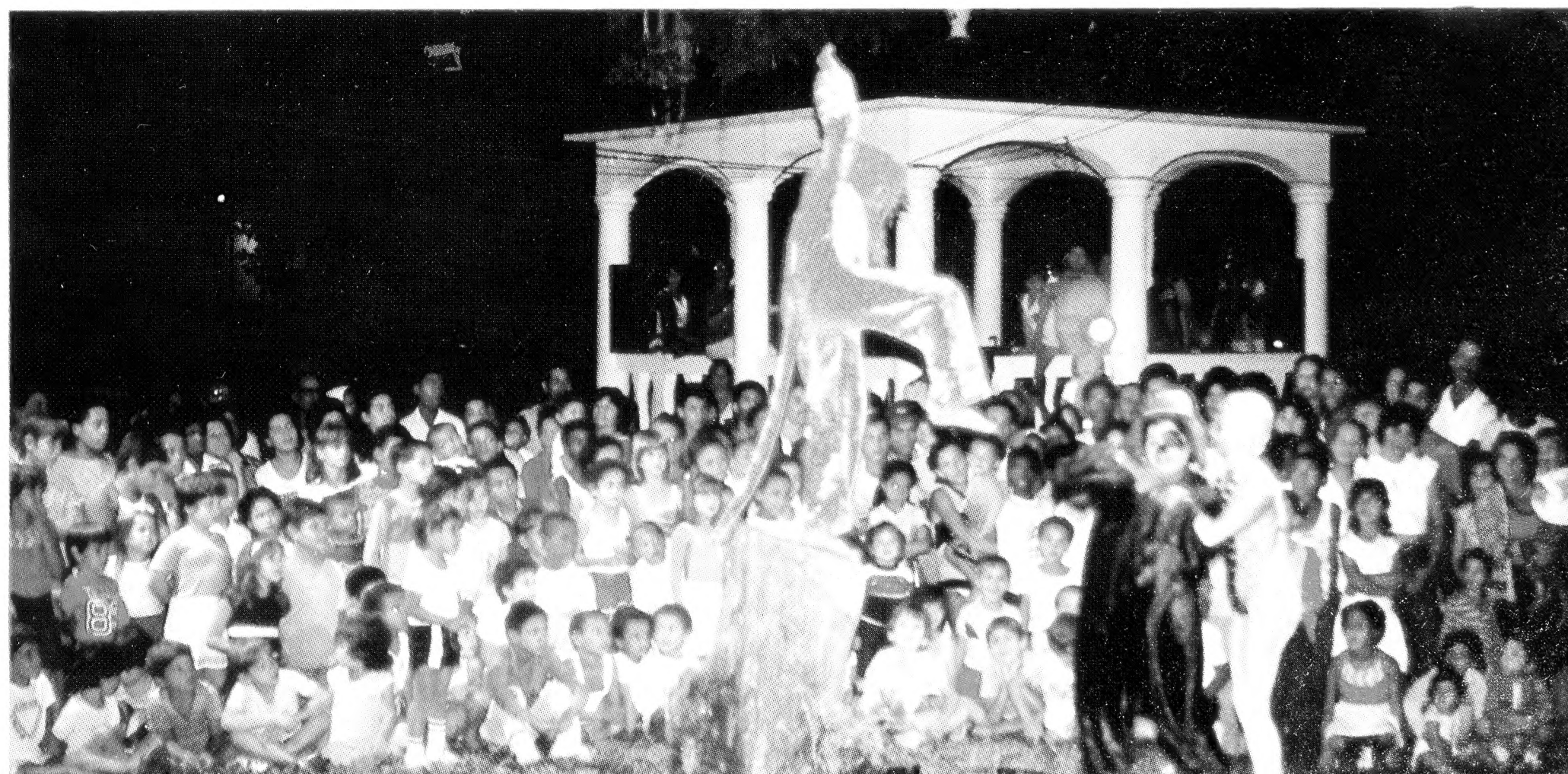




James Dietz



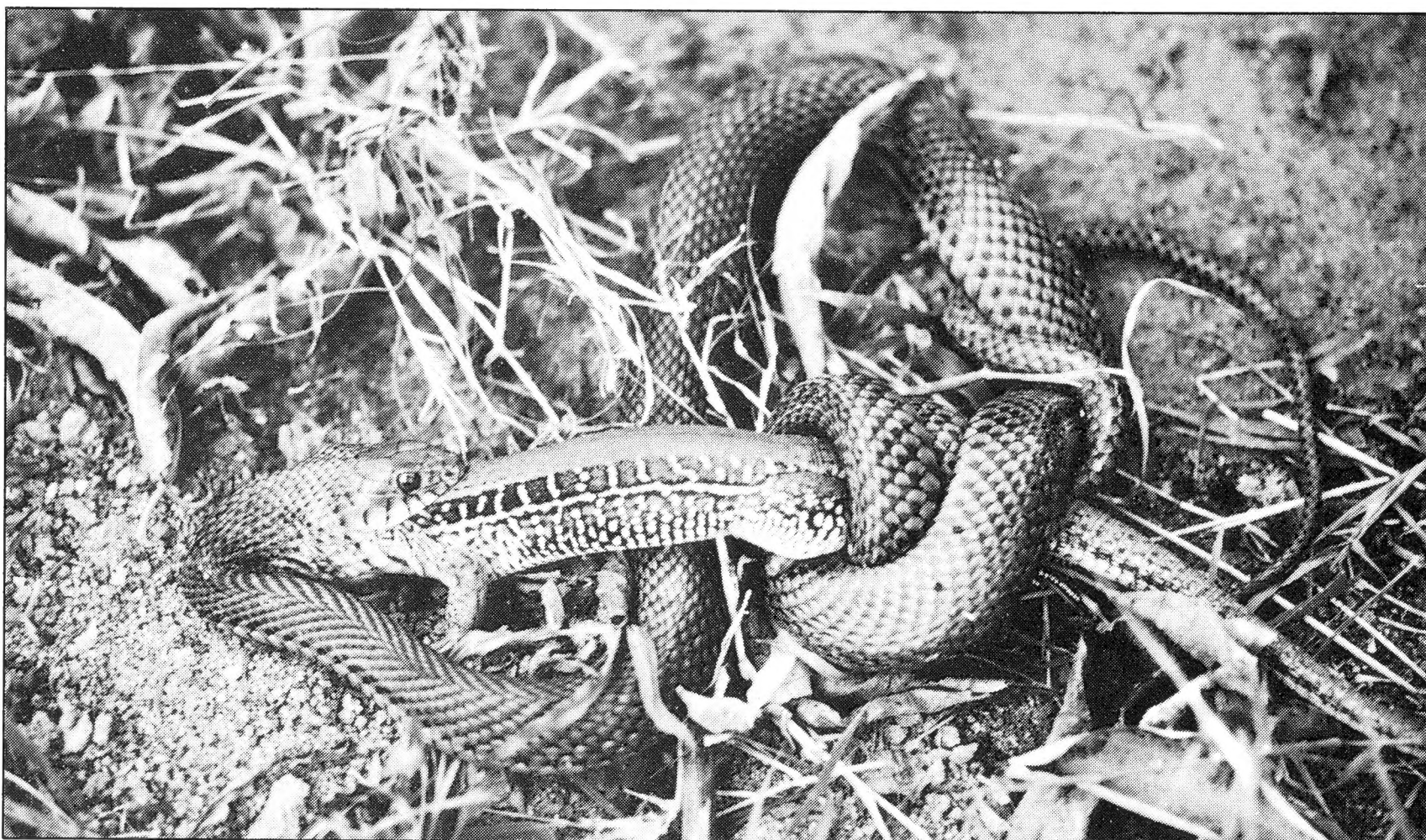
Lou Ann Dietz





James Dietz

Capybaras, the world's largest rodents, stroll along the Reserve's road.



James Dietz

A snake devours a lizard near the Reserve's wetlands, an area that abounds in wildlife.



Lou Ann Dietz

Brazilian youngsters enjoy the project's educational games.

and the bare-throated bellbird whose loud, distinctive call carries hundreds of yards through the forest. At night, the common potoo flies with its huge mouth open to scoop up swarms of insects.

Insects are particularly abundant in the Reserve's wetlands. While observing the tamarins, we often see a strikingly beautiful endangered swallowtail butterfly in the swamps, where its only known foodplant grows. Countless other butterflies abound in the Reserve; in two days, a visiting entomologist identified 133 species!

Reptiles common in the Reserve include boa constrictors, false and real coral snakes, fer-de-lance, vine snakes, and a snake (*Pseudoboa cloelia*) that preys on poisonous snakes. We often see lizards sunning themselves on hot afternoons, and tiny geckos help control the mosquito population in our field headquarters.

The tapir ("anta" in Portuguese) for which the Reserve was named no longer exists here, but the region's forests are still home to a variety of other mammals. Besides golden lion tamarins, there are two other species of primates—howler and capuchin monkeys. Rodents include squirrels, spiny rats, water and rice rats, agoutis, pacas, capybaras, and prehensile-tailed porcupines. Marsupials are well represented by three marsupial mice species and four species of opossums; edentates by two sloth species, the collared anteater, and three armadillo species.

Chattering Peccaries

Other beneficiaries of tamarin conservation include two species of deer, 11 kinds of bats, and the collared peccary, whose teeth-chattering is enough to make even a biologist look for the nearest tree to climb!

The Reserve also provides habitat for a variety of carnivores. Most are active at night when the tamarins are safe in their tree holes. The crab-eating fox and crab-eating raccoon make nightly rounds, and we often see coatis, grisons, tayras, otters, and hog-nosed skunks. Although cats are not abundant, we have seen jaguarundis, Margay cats, ocelots, and the tracks of a puma.

Even more varied than its animal life is the Reserve's plant life. The number of tree species may be 100 times greater than in a temperate forest of similar size, and many of the species have never before been scientifically identified. Brazilian botanists are now helping us to identify trees in the tamarin study areas and fruit species important to tamarin survival.

Actually, *all* the Reserve's plants and animals are important to tamarin survival because the tamarin is an omnivore, eating insects, small vertebrates, and fruit. Its position near the top of its food chain means the tamarin needs a healthy forest to survive. And if we can convince people to save a forest for the tamarin, they will automatically be saving the butterflies, cats, and even the snakes and toads! So our education program urges Brazilians to decrease forest destruction, increase the number of protected areas, and eliminate poaching.

Tamarin Charisma

The tamarins' charisma is a tremendous advantage in this work. But we also have a major obstacle to overcome: agriculture, the source of most deforestation in the area, is also the primary source of income. We aim our educational material at school-children and their parents, teachers, landowners, and local officials—all of whom live in rural

communities and depend on agriculture for their livelihood.

Our activities have ranged from organizing press events inside the Reserve to producing for school-children free notebooks with a tamarin cover and conservation message. We have aired public service messages on radio and TV, trained teachers in ecology, taught landowners how they can save on property tax by establishing private forest refuges, and lectured local officials, schools, conservationists, farmers, university students, and scientific congresses. We have developed posters, audio-visual programs, leaflets, stickers, buttons, t-shirts, and decals. Approximately 4,700 people have passed through our travelling exhibit and hundreds have seen our production of a children's play about tamarin conservation.

Six schools have organized field trips to the Reserve, where the reintroduced animals—already accustomed to people—have been a special source of delight to the youngsters. During one visit, a daring young tamarin came down from a tree, found a tree frog, and ate it in front of 25 ecstatic high school students.

Although public enthusiasm is growing, we know the changing of attitudes and behaviors is a slow process that will have to continue long after most of us have returned to the United States. Fortunately, an energetic Brazilian biologist, Elizabeth Nagagata, is one project member who plans to stay. She will continue the educational work she has helped begin—keeping public enthusiasm alive and continuing to supply scientific information so that conservation of the forest and *all* its elements—including the golden lion tamarin—will come to be regarded not just as something in vogue, but as a crucial issue meriting continuing action. □

Survival in the Wild

It has been a year since we released 13 captive-born golden lion tamarins into the Brazilian jungle—long enough to know that our hard work has paid off. The reintroduction effort is a success!

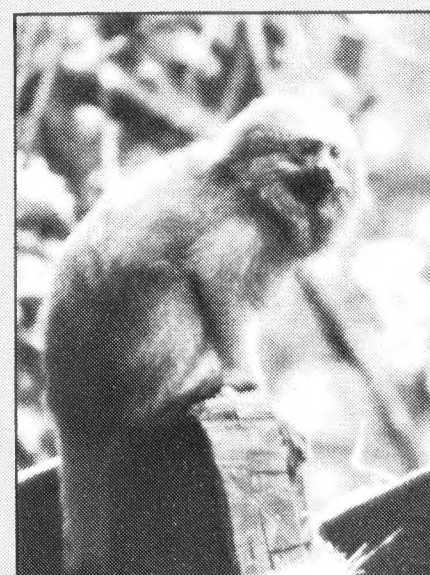
Six tamarins in the reintroduced families are thriving completely on their own in the forest—three zoo-born tamarins, one that was donated by a local Brazilian, and two offspring.

Although still slightly less agile than their forest-born cousins, the captive-bred animals now behave like wild tamarins. Since November 1984, they have been finding all their own water; by March 1985, they were finding enough food on their own for us to end all supplemental provisioning. Their color has changed from bright gold to the brilliant fiery red of wild tamarins—probably as a result of the tropical sun and natural diet.

Our success has led to plans for a second reintroduction later this summer. Our candidates will be large family groups, because youngsters have proved more adaptable than adults to survival in the wild.

—Lou Ann Dietz
Poco das Antas

At the moment of release last year, the first tamarin to emerge from its enclosure was a young female.



James Dietz

Big Top

Sally Tongren

Gulls wheel and mew, flashing white wings in the sunshine. A pair of cormorants engage in their courtship ritual, the male flat-footing it over the rocks, bearing a twig for his mate to use in her nest. As he yarps a love call, the delicate white plumes at the sides of his head flutter and the lining of his mouth is as blue as his eyes.

Nearby, several pairs of terns are also engaged in courtship. A male flies up and alights beside his proposed mate, proffering a morsel of food that she accepts with bowed breast and quivering wings, repeating the begging behavior of her infancy. Spring is in the air and the birds follow their age-old mating rituals.

Although these coastal birds are far from the ocean, the illusion of a seashore setting is strong, especially if you close your eyes and listen to the gulls.

But on another occasion the gulls may be silent and the effect is that of a forest pool: Wood ducks splashing in their baths while doves roost in the trees above the pool, herons stalk their dinner, and a chukkar partridge patters past on quick red feet.

At times the illusion can be very strong that you are far from the city; but in fact, you are enjoying the Great Flight Cage at the National Zoo.

The chance to watch these

Sally Tongren is a FONZ Guide and frequent ZooGoer contributor.



natural behaviors is one of the attractions of this huge wire mesh tent. Standing 90 feet high at the central shaft, extending to six graceful parabolic arches, the Flight Cage encloses visitors among the exotic birds that are so used to the human presence they largely ignore it.

Not that they can be touched. They retain a prudent flight distance, but are eminently watchable. Mandarin and Hawaiian ducks preen their exotic feathers; Chinese necklaced doves strut and coo, much like our native mourning doves; black-billed magpies swoop overhead to their nests high in the trees.

On nearby branches, black-crowned night herons also nest, flapping and squawking, stabbing with sharp beaks at any neighbor who comes too close. But visitors may rub their eyes in disbelief when spying colonies of herons nesting *outside* the enclosure. Wild herons nest in the trees above the Flight Cage, probably attracted by the Zoo's herons. These birds like to nest with others of their species, despite their tendency to squabble con-

stantly over nesting territory.

Built in 1964, the Great Flight Cage incorporates most of the elements birds enjoy in nature: trees and shrubs, ground cover, pools and running water. In the artificial but very realistic rocky cliffs are ledges and cavities containing nest boxes for cliff-dwelling species. The rocks are hollow, giving keepers access to the nest boxes. Hollow logs, also artificial, offer privacy and shelter.

Flight Cage birds are usually winter-hardy species; with proper food and shelter, they can weather the cold in good health. Tucked down and fluffed-out, using their built-in insulation of down and feathers, they shelter from harsh cold under shrubs and in bushes. For extra warmth, they nestle near infrared lamps that keepers place inside the artificial logs and other shelters during inclement weather.

Proper nutrition for exotic species can present more of a problem than the weather. Many of these birds—such as herons, cormorants, terns and gulls—normally eat fish. But to keep fish fresh, the Zoo must freeze it—a process that removes some essen-

tial nutrients. Almost two years ago, cormorant chicks hatched in the Flight Cage showed signs of acute calcium deficiency, a result of eating frozen fish. During the winter of 1983, keeper Liz Glassco patiently taught the cormorants to accept a "sausage" made in the Bird House from a mixture of meat with vitamin and mineral additives. Gradually, the cormorants came to take the mixture with enthusiasm, and now all of the Flight Cage's fish eaters are on a "sausage" diet!

Once a bird is released into the Flight Cage, there it usually stays. Sometimes, as with the cormorant chicks, a bird may need a medical exam or must be moved to another enclosure—but the task of catching it is seldom easy. While birds lose some stamina in captivity, keepers who have spent long afternoons trying to net Inca terns (or any other species) as they wing through the air with the grace and endurance of their sea-going ancestors, will testify that they do not lose much. It is a lucky keeper who can gently slip a net over a sleeping bird.

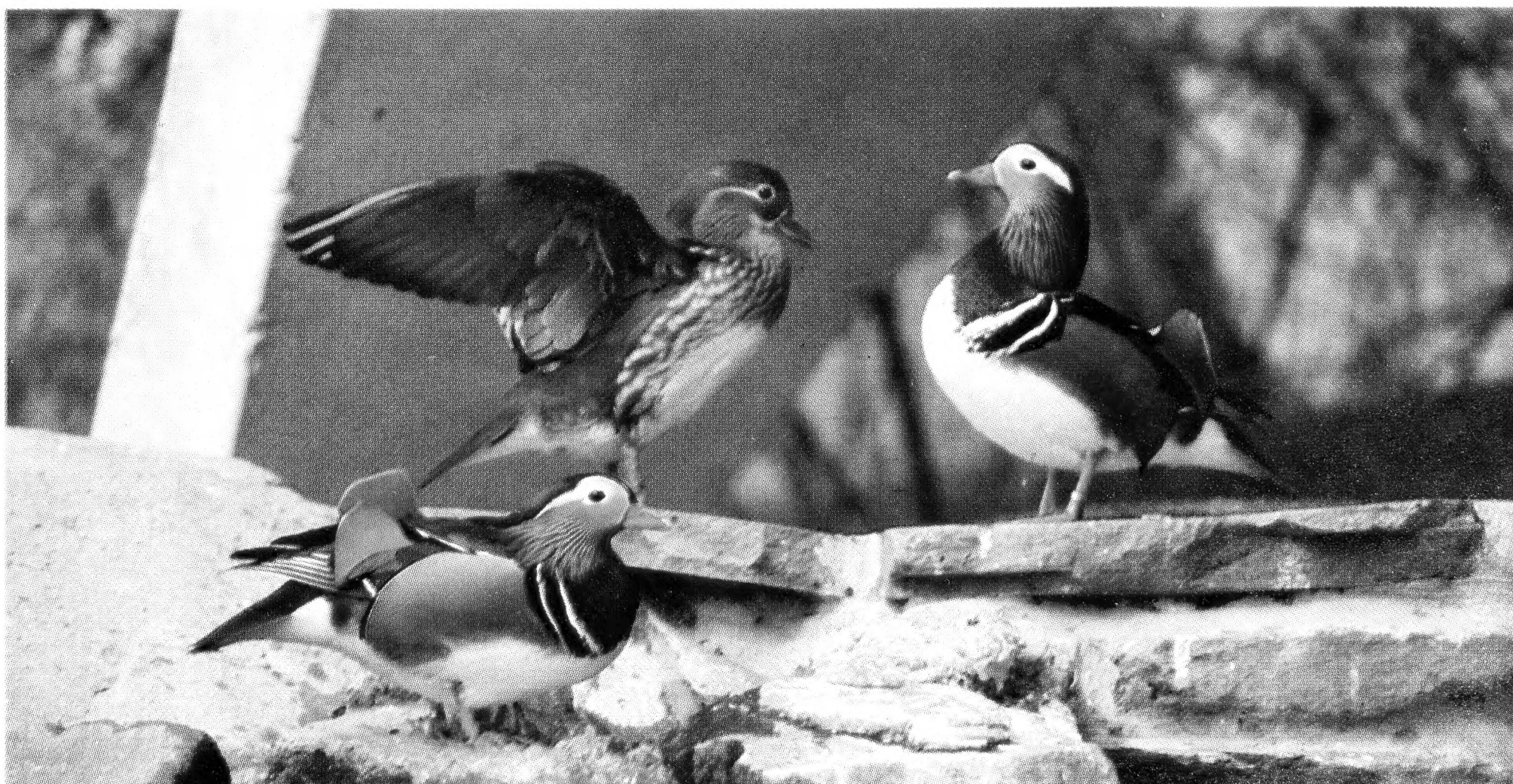
Wary Crow

One African pied crow—a lone male very like an ordinary crow but black-and-white, and much more rare—ran his keepers ragged when they had to catch him. A long-time resident of the Flight Cage, this bird was scheduled to go to a zoo in Boston, where a single female awaited him. Unfortunately, there is no way to explain to animals what benefits may be in store for them, and this crow had no intention of being

The Great Flight Cage is always awhirl with avian activity—an Inca tern soaring by (left), gulls wheeling overhead (above right), mandarin ducks preening in the sun (right).



Milton Tierney



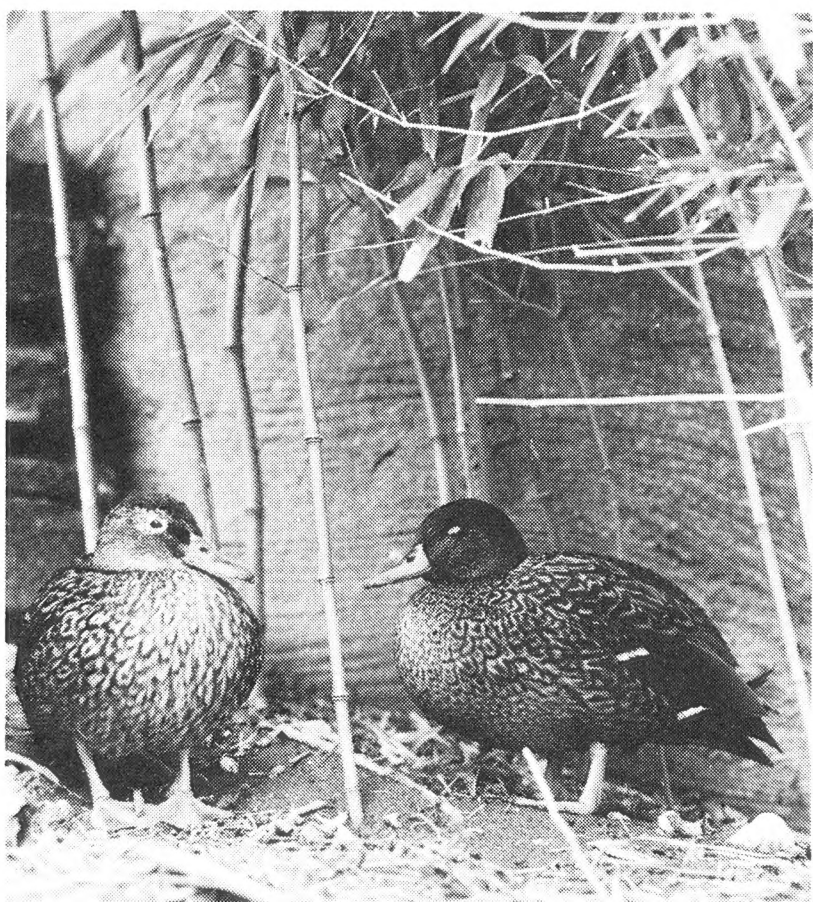
Jessie Cohen, NZP Graphics

caught. It took keepers many long hours to outwit the wary fellow.

Some visitors inquire whether birds can escape from the Flight Cage. Over the years a few have, but they were easily recaptured. Far from flying off into the unknown, they stayed close by their home and even tried to return into the exhibit. Immigration seems more the problem than emigration: wild sparrows, cow birds, starlings, chipmunks, and mice often sneak through the wire mesh in search of a free meal. It is remarkable how small even a cowbird can become when it wants to slip through a narrow opening. These freeloaders arrive most often in the winter, when they apparently see the Flight Cage as a king-sized bird feeder.

Through all of Washington's seasons, the Great Flight Cage has much to offer. In the spring, all is abustle with courtship and nesting. In summer, dappled shade and drowsy cooing doves make the Flight Cage seem one of the coolest and most relaxing spots at the Zoo. Young terns and herons try their unpracticed wings in fall, while in winter, wood ducks in full plumage begin their mating rituals and gulls' wings gleam against the pale sky. Year around, the Flight Cage is a 90-foot big top with an ever changing show. □

The Flight Cage (above right) holds a variety of habitats—from bamboo thickets, where Hawaiian ducks often hide (below), to rocky cliffs, where cormorants congregate (center right) and a seagull voices its raucous call (below right).



Milton Tierney



Jessie Cohen, NZP Graphics



Jessie Cohen, NZP Graphics



Jessie Cohen, NZP Graphics

“Contact” Creatures

Bob Truett

Look, Ma, they're picking fleas!" With these words the average zoo visitor dismisses perhaps the most significant social behavior to be seen in any zoo.

What are monkeys doing as they pick through the fur of their companions? For many years, we

Bob Truett is Director of Alabama's Birmingham Zoo. His article is reprinted from Animal Tracks.

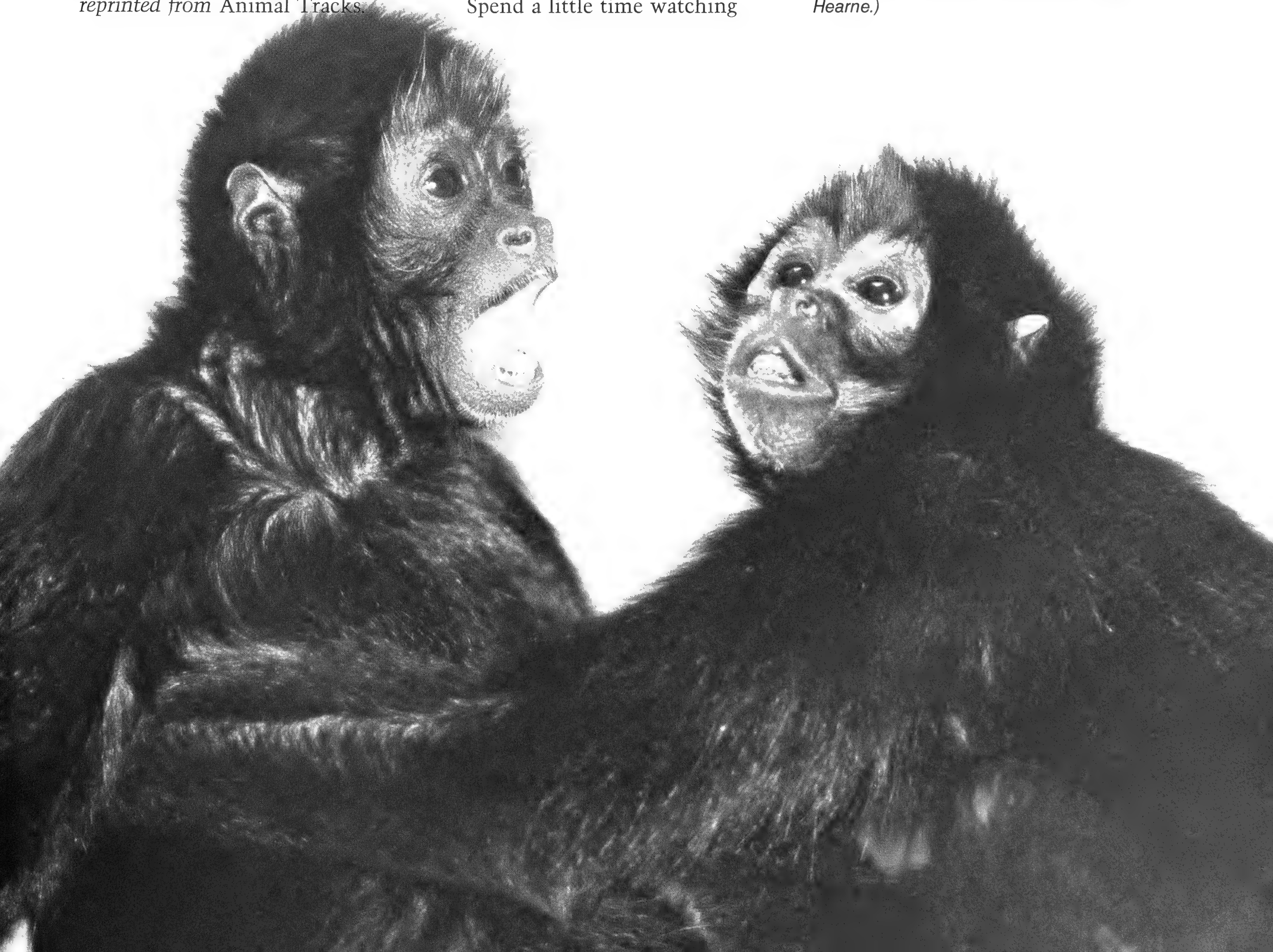
have known that they are not picking fleas. We call the behavior "grooming," but that label doesn't tell us much.

Whether you study animals in a zoo or in the wild, you eventually come to realize that animals have some profound and significant things to teach us. Is there something important to be learned from watching monkeys "pick fleas"?

Spend a little time watching

Barbary macaques in their grooming behavior. You will soon notice that it is a very relaxed and peaceful time. The male is lying perfectly still as his hair is shuffled

Contact behavior is frequently seen in primates like these spider monkeys. Overleaf: Two Barbary macaques are raptly involved in grooming, the most obvious primate contact behavior. (Overleaf photo, first prize color winner in FONZ's 1985 Photo Contest, is by Allan Hearne.)







and his skin gently stroked, perhaps by a female and a couple of youngsters. Nearby a young macaque is groomed by an aunt and an older brother. The animals being groomed are obviously contented as they enjoy this luxury. The groomers also seem to be having a very good time.

Normal primates exhibit many kinds of contact behavior. Grooming is the most obvious, but we can also see them patting and nuzzling each other. In more primitive primates, grooming and touching is done mostly with the mouth and teeth; in higher primates it is done mostly with the hands.

Early observers, true to the Victorian corset mentality of which they were a product, interpreted such primate behavior as sexual and therefore evil. They were even more in error than those who say the animals are "picking fleas."

Heini Hediger, the eminent European zoo director and author of *The Psychology of Wild Animals in Zoos and Circuses*, states that primates as an order are "contact" animals. Mothers typically carry infants clinging to their bodies for long periods of time. Older youngsters ride on their mothers or on other members of the group. Young animals and adults tend to sit and sleep

together in close intimate contact. There is a great deal of touching and grooming in all normal higher primates.

In *Maternal Behavior in Mammals*, Harlow, Harlow and Hansen comment about what they call an "... extremely powerful social response observed throughout monkeys." They go on to say that this social response, grooming, causes intensification of the psychological bond between mother and infant and is also important for all ages including adult.

Allison Jolly, in *The Evolution of Primate Behavior*, is even more emphatic by stating that grooming and physical contact are the social cement of primates from lemurs to chimpanzees.

Does this behavior in monkeys indicate something of importance for people to learn? Maybe so. James Prescott of the National Institute of Child Health and Development studied 49 primitive human cultures and discovered a strong relationship between touching and caressing and the amount of aggressive behavior. In cultures where there is a lot of close physical contact between people there is noticeably less aggression and violence than in cultures with little physical contact.

In our own society, violence seems to be increasing at an alarming rate. Newspapers are filled with stories of violence; our most popular medium of entertainment is a constant parade of violence; the most violent "sports" attract the biggest crowds. Meanwhile we seem to get farther away from one another, suspicious of the friendly touch and out of contact with our children. Have you hugged your child today?

Perhaps it would be to our benefit to watch the monkeys and learn the profound value of "picking fleas." □



Milton Tierney

The Zoo's orangutans exhibit many kinds of contact behavior.

How Fast Can an Alligator Run?

Laurie Bingaman

You have a question about a nursing cougar's diet or an anaconda's strength. The library is closed, your report is due tomorrow, and not even the Trivial Pursuit champion down the street would know the answer. Thumbing through the phone book, wondering who to call, you realize that the Zoo must have the answer. You dial the Zoo's information number (673-1717). The FONZ Information Aide who answers your call can give you general information on exhibits or Zoo hours, but a caller with a technical question will often be referred to a specialist in one of the Zoo's many departments. Laurie Bingaman is one such specialist who answers questions at the National Zoo's Reptile and Amphibian House.

Are turtle eggs pink?" A second grade class has been reading a reptile book with colored illustrations. Like many people with questions about the natural sciences, their teacher turns to the Smithsonian Institution for help. After being transferred through several different offices, the call reaches me in the Reptile House at the National Zoo. Pink turtle eggs are new to me, so I consult with one of the keepers, then tell the teacher that as far as we know turtle eggs are white—various shades of white perhaps, but not pink.

Almost 2,000 times a year, I pick up the phone and answer

questions like this. On the other end of the line may be a school-child with a report to write, a pet owner, a foreign embassy, a writer under deadline, a scientist, or an hysterical homeowner with a snake in the kitchen.

People call from as far away as Vermont, South Carolina, and Oregon to talk to someone at the National Zoo. From the NASA researcher who needs snakeboots for the Bangladesh jungle to the photographer who wants to borrow an eagle, all have a need for information and many are sure that their question is unique.

Of course, some questions *are* unique: "I'm wearing a penguin costume tonight. What noise does a penguin make?" or "What kind of sea turtle is eight feet long and eats barnacles off ships?" (None that we ever heard of.)

After several years, I've learned that most queries are fairly routine: "How should I take care of my box turtle . . . pet snake . . . lizard . . . baby bird . . . rabbit?" "Where can I find a vet who will examine a parrot?"

Other questions are routine, but more difficult to answer: "What kind of snake is in my kitchen . . . barn . . . attic . . . yard—and how do I get rid of it?"

Although it is difficult to determine the identity of an animal based on a telephone description, calls received indicate that the blacksnake is the most commonly found large snake in the D.C. area and the ringneck and DeKay's the

most frequently sighted small ones.

Warehouse Full of Snakes

Getting rid of a snake depends on where it is, what it is, and the psychological state of the caller. One thing is certain—the snake must be physically removed. There is no such thing as snake repellent—much to the dismay of one caller who was in charge of clearing a warehouse filled with 40-50 truckloads of mail sacks and several snakes. His crew refused to carry out the sacks until the snakes were removed; but the snakes could not be caught until the sacks were cleared out.

I've been able to answer many questions on the spot: "Can I turn geckos loose in my kitchen to eat the roaches?" (No, it's too cold, and besides, how are you going to keep them in the kitchen?) "How do I get my parrot out of a 40-foot tree?" (Try luring him down with food.)

Some inquiries are passed along to other experts at the Zoo, Smithsonian, Humane Society, or a university: "What's the difference between Nubian, Toggenburg, and LaMancha goat ears?" (They have flopped, upright, and no ears, respectively.) "What is the social structure of the Marabou stork?" "What's the function of eyespots in Malayan four-eyed turtles?" "How do I stop woodpeckers from drumming on aluminum house siding at five a.m. and keep mock-



Many differences of opinion center around myths that have grown up about reptiles.

ingbirds from singing at midnight?"

A few questions don't seem to have answers at all: "Do snakes tend to coil to the left or to the right?" "Could a box turtle picked up in Gaithersburg, brought to D.C., marked with my initials in red nail polish, and released back in Gaithersburg, then find his way back to D.C.? . . . Because he's here!" (I suggested someone might be playing a practical joke on the caller.)

Calls frequently come in as a result of arguments. Many of these differences of opinion center around myths that have grown up about reptiles over the years: "Do snakes break into pieces and then pull themselves back together?" "Can copperheads and blacksnakes crossbreed and have poisonous babies?"

Like many myths, these are partially rooted in fact. Snakes do not break up into pieces, but some lizards can, and do, lose their tails, usually while being chased by a predator. The glass lizard, which resembles a snake in that it has no legs, may be responsible for this old wives' tale. A disturbed glass lizard may lose its tail; the wriggling tail distracts a pursuer while the lizard escapes unharmed. The tail later regenerates, perhaps leading to the conclusion that the animal has somehow pulled itself together again.

Copperheads and blacksnakes (rattlers and bullsnakes in the Western version) are genetically incapable of crossbreeding. But, while adult blacksnakes are black and adult copperheads are patterned, young blacksnakes and young copperheads both have patterned skin. As the blacksnakes mature, the patterning slowly gives way to black, in much the same way as a fawn or lion cub loses its spots. This results in half-grown blacksnakes having a pattern overlaid with a wash of black; thus they are often mistaken for a "crossbreed." Also contributing to this misconception is the fact that both species may den together during the winter and are seen together in the spring.

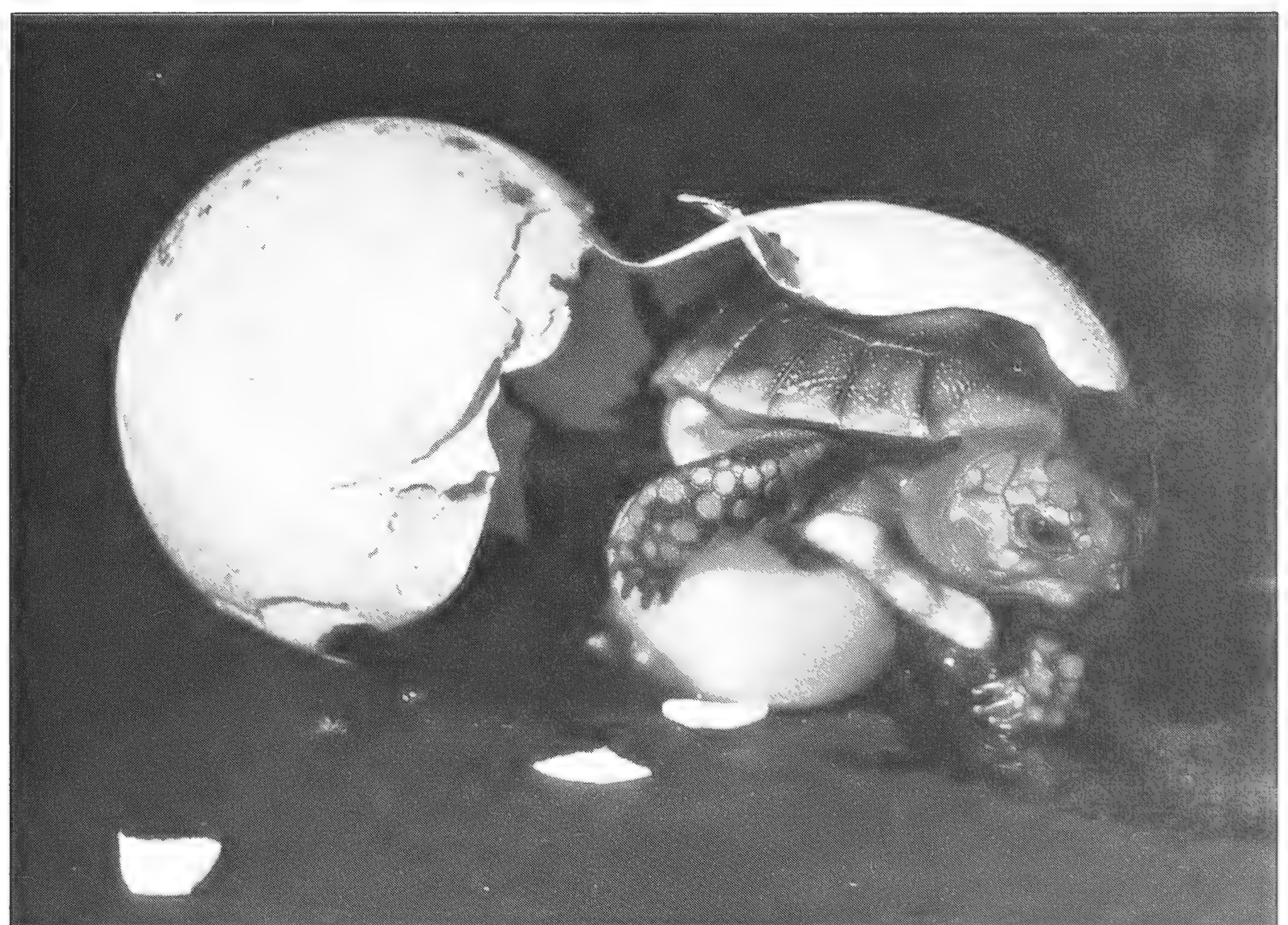
Alligator Speeds

Some questions may seem simple to the caller, but often require a complicated answer. For instance,

"How fast can an alligator run?" The answer depends on several variables: How big is the alligator? Is something chasing it, or is it chasing something? How far does it have to go? How warm a day is it? (An alligator's top speed is about 35 mph over a short distance, on a warm day, especially downhill.)

Finally, some questions are just plain mysterious: "Something in the barn ate the radiator hoses, belts, and most of the wiring out of a truck engine." Neither the caller nor I had any ideas.

Talking to the public can be routine, thought-provoking, time-consuming—but it is never dull. A woman who called me one week to talk about snakes called back the following week. "I know it's not your field, but you'll know where I should call. Where can I get a 150-year-old statue of the Buddha restored?" □



A combination of fear and fascination prompt many questions about exotic reptiles such as the water dragon (left) and emerald tree boa (above left). But even non-fearsome reptiles, like the red footed tortoise (right), arouse people's curiosity.

Jessie Cohen, NZP Graphics

Monday in Beaver Valley

Steve Frank

I can't imagine a better place to work!" grinned keeper Vince Rico as he began his rounds in Beaver Valley, one of the National Zoo's largest and most varied areas.

Six keepers staff the Valley. Three work on the three bear lines; two are responsible for seals and sea lions; Vince is in charge of timber wolves, bush dogs, otters, deer, nutria, and one feisty turkey.

On a drizzly Monday in November, I followed his rounds of this unique menagerie, discovering just what a zookeeper does on a typical day. I learned there is little a zookeeper *doesn't* do, and that no day is "typical."

Keepers are responsible, of course, for feeding the animals and cleaning their enclosures. But they also share responsibility for diets, exhibit changes, health needs, and breeding plans. Every day is filled with so many different tasks and unusual situations that, as Vince said, "No two days are ever the same."

When I met Vince at the Zoo that Monday morning, he was smiling and energetic. By 7 a.m., he had briefly looked over the animals in his charge, checking for normal behaviors such as the otters' curiosity and the wolves' shyness. Any unusual behavior is a warning sign, as animals often mask their ailments.

On Mondays, Vince takes water

samples from the seal and sea lion pools for bacterial analysis by the pathology lab. While this may not be a hazardous job, it was certainly a wet one as the playful pinnipeds frolicked about the sampling area. Vince also regularly samples the nutria pool and changes the water in the otter compound every week or so to control bacteria levels.

Each Monday, the Zoo Commissary makes a food delivery to Beaver Valley. Carrots, green beans, hard-boiled eggs, sweet potatoes, apples, and smelts for Vince's charges, plus cases of frozen fish and squid for the pinnipeds, made up this Monday's delivery. With the care of a gourmet chef, Vince chopped, sliced, and mashed the delicacies, combining them with prepared animal feeds in recipes devised to accommodate each species' taste and nutritional requirements.

Hungry Carnivores

The carnivores—wolves, bush dogs, and otters—were especially eager for breakfast as Sunday is a fast day for them. Species that do not eat every day in the wild are healthier in zoos if they fast one or two days a week, Vince explained as two squealing bush dogs rushed eagerly to their pans, voraciously devouring their meal. While they ate, Vince noted on a checklist behavioral characteristics such as nervousness, whether each animal was shed-

ding, whether the pool was dirty and why, and if stools appeared loose. He files these daily check-sheets, refers to them when preparing his portion of the Zoo's weekly status report, and summarizes them in monthly reports. By comparing the sheets over time, keepers can gather information about each animal's regular habits and seasonal changes.

Each animal's file also contains health data such as worming and vaccination dates, veterinary reports, technical articles, and other information gathered on the species. Beaver Valley keepers meet biweekly with their area's curator to discuss new information in the files, diets, animal management approaches, current or potential problems—anything related to the Beaver Valley collection.

At Vince's next stop, a pair of friendly otters bounded to the gate, anxiously greeting him. He fed them by hand to get a close look at their physical condition. Adorning the exhibit are several new plants Vince brought from a nursery in Pennsylvania.

Near the otter enclosure were two white-tailed deer and a turkey—an interesting threesome sharing a spacious, tree-shaded yard. The turkey, an aggressive character who often roosts in trees outside his yard, pecked at my shoes while Vince distributed the food. The hand-raised white-tail buck was very friendly; the doe, shy and skittish.

Steve Frank is a FONZ member and frequent ZooGoer contributor.

Then came the nutrias' turn to eat. These aquatic mammals are Beaver Valley's newest addition. Before they arrived, Vince researched their needs and behavior at the Zoo's library and computerized search facility. "Access to a worldwide data base," Vince said, "is one of the many advantages of being associated with the Smithsonian."

The nutria share their large pool with several species of waterfowl and a turtle. The birds, Vince said, prefer the privacy of the nutria pool to the large pool by the bird house.

The last animals fed that morning were the timber wolves. A male and two females share the main wolf enclosure while a third female has a separate compound. The solitary female used to live with the other three, but their social interaction tended to exclude her. Now the Zoo is seeking a new home for her.

Undeserved Reputation

Vince entered the wolves' enclosure and put their food in buckets that the animals had allocated among themselves. Other keepers feed the wolves through slots in the fence, but Vince usually enters their compound. He feels at ease with the wolves, and they seem to sense this.

"Wolves don't deserve their bad reputation," he said, enthusiastically describing his plans for an educational program to increase appreciation of the misunderstood canines.

Like many zookeepers, Vince constantly plans new projects to benefit the Zoo's animals and visitors. Recently he added foraging plants for the nutria. Two years ago, he installed six bird feeders in Beaver Valley to attract local woodland birds. Last year, he designed and built the squirrel



The otters always greet Rico enthusiastically—especially at mealtimes!



Beaver Valley's female spectacled bear protectively watches over her cub.

Steve Frank

Jessie Cohen, NZP Graphics



and chinchilla exhibits in the Small Mammal House. This year, he and the Zoo's Graphics Department will develop a plan to make all the pools in his part of Beaver Valley more natural looking—an appealing prospect for animals and visitors alike.

Next year, Vince hopes to launch his wolf education program—and who knows how many other projects?

Master Juggler

Vince and his colleagues seem to thrive on balancing multiple projects and tasks. While he prepared and served breakfast to his animal charges, he handled several interruptions and unexpected duties with the ease of a master juggler. The Zoo's masons, for instance, arrived to repair the gunite rock by the wolf area. Vince led them to the rock, discussed the type of repairs needed, and explained how the masons, much to their relief, could fix the rock without entering the wolf compound.

Then Vince rotated a maned wolf and three spectacled bears to different enclosures. These species are not usually on Vince's "beat," but he was responsible for them that Monday because keepers assume each other's duties when a colleague has a day off. He also helped move 10 cases of bleach, delivered for disinfecting enclosures and equipment, that required quick storage before *New York Times* reporters arrived to

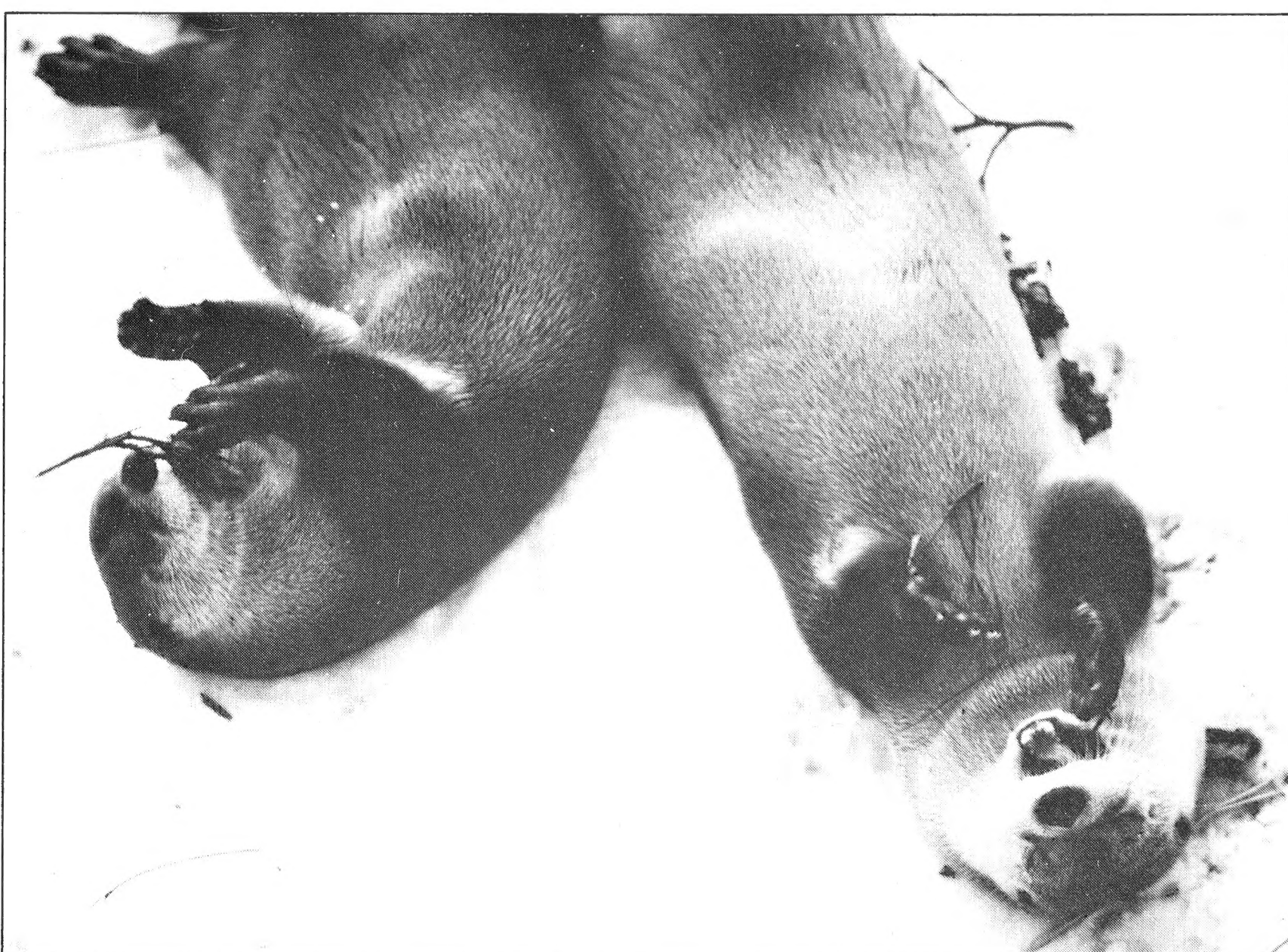
A native of South America's warm swamps and savannahs, the shy maned wolf (above left) is most active in the Zoo during warm weather. In contrast, the Zoo's timber wolves (left) thrive in cooler climates and, like the river otters (right), seem to enjoy a good snowfall. Sharing much of the maned wolf's native range is the timid bush dog (above right), the smallest canid in Beaver Valley. A feisty male turkey (top right) is one of Rico's most independent charges.



Jessie Cohen, NZP Graphics



Milton Tierney



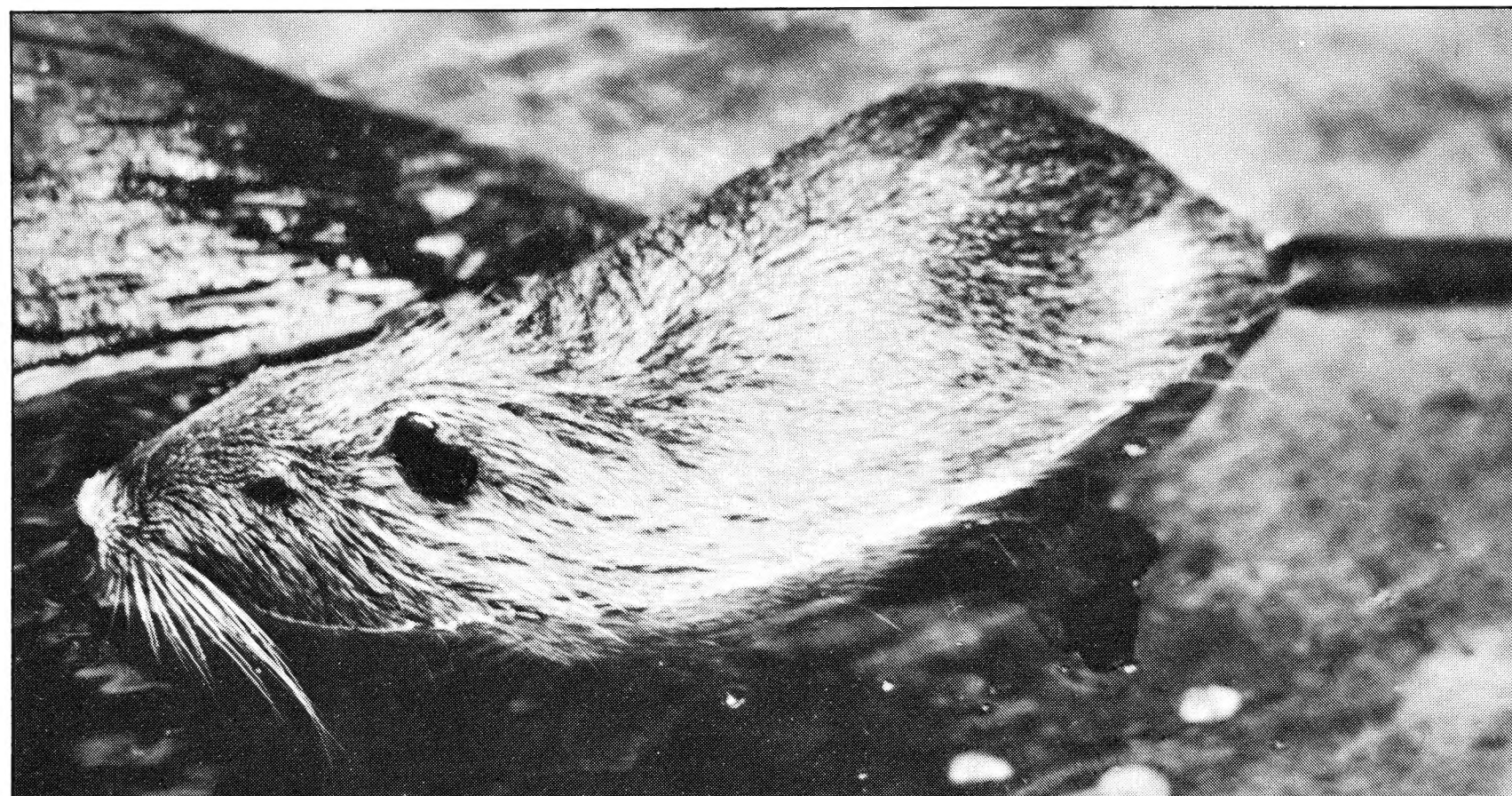
Jessie Cohen, NZP Graphics

photograph NZP Director Michael Robinson amid the sea lions.

This pattern continued into the afternoon, as Vince answered visitors' questions, retrieved a lost camera, and had an impromptu consultation with an NZP curator while he deftly fed, inspected, and cleaned up after the animals in his care.

Vince believes an essential part of his job is keeping the animal

environment clean to ensure good health. After the spectacled bears received their apples, carrots, bread, and fish, he hosed down their enclosures and those of the maned wolves next door. The male spectacled bear reached through his fence and swatted the hose with his long claws—a reminder that keepers must always be alert around wild animals.



Milton Tierney



Steve Frank

Vince then disinfected the bush dog enclosure with its daily dose of diluted bleach and moved on to the otters. After greeting Vince enthusiastically, the otters ate their second meal of the day while Vince cleaned their enclosure. At the day's last meal stop—the nutria and ducks—a tall, slender man called out, "Hey, Vince!" He was an old acquaintance, the Minnesota Zoo's head reptile keeper. They spoke of Vince's upcoming trip to several zoos, including Minnesota, to study otter breeding and maintenance of beaver exhibits. They chatted about caring for beavers—the ideal temperature and chemical content of their water, their need for privacy, their food and dams.

An Easy Day

After a few minutes of "shop talk," Vince cleaned the nutria and wolf enclosures, then returned to straighten up the kitchen that serves as a temporary office for Beaver Valley staff until new facilities are built. This, he commented, had been an easy day. If a "special" job had been scheduled—like planting a tree, cleaning a pool, or helping the vets vaccinate the animals—he would have rearranged all his other tasks around this special task.

The constant variety is one reason Vince loves his work. "It's always interesting," he said, "and fun."

It was also exhausting! To maintain his schedule and energy level, Vince must stay in excellent physical shape. After following his rounds for eight hours, I went straight home to bed—and was asleep in minutes! □

The Zoo's nutria (above left) share a large pool with several species of water birds and a turtle. Rico regularly samples the pool's water (left) to control bacteria levels.

A Night to Remember

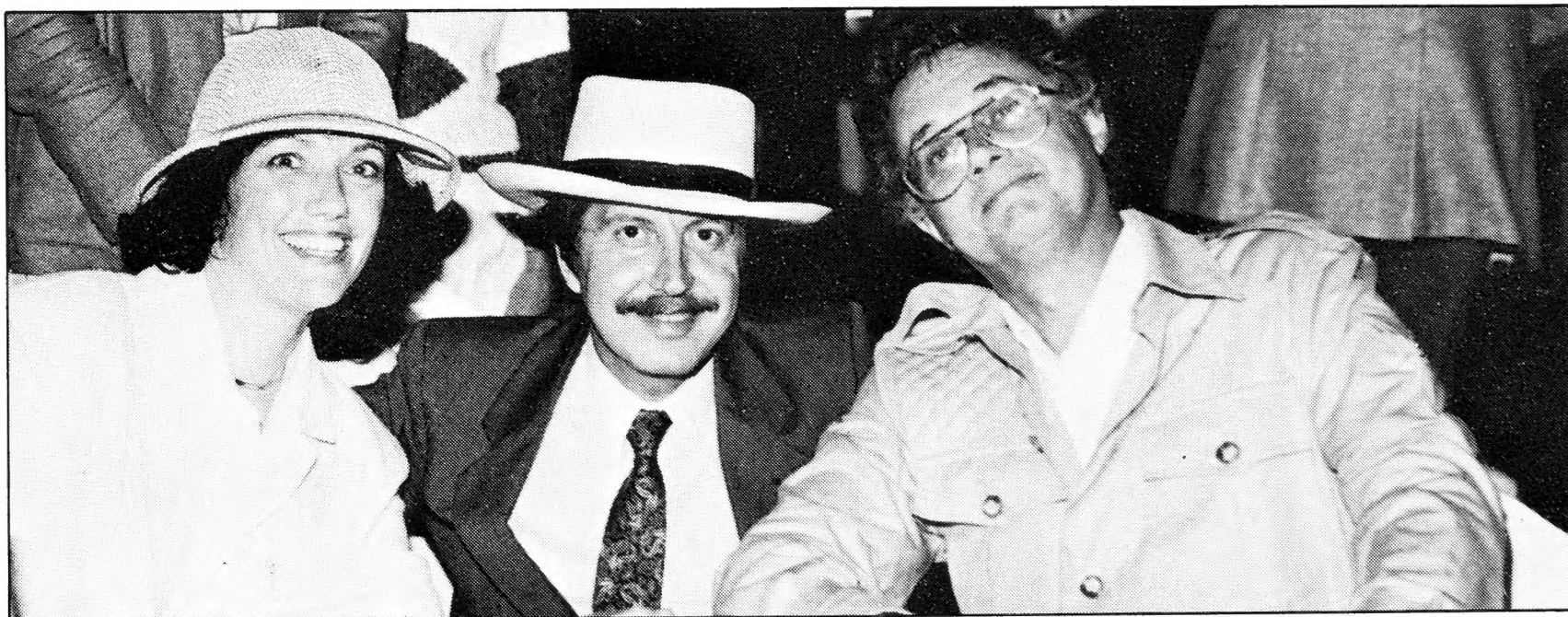
Photos by Pat Johnson

Over 550 supporters of the National Zoo attended FONZ's second annual ZooFari on May 16 to benefit the Theodore H. Reed Animal Acquisition Fund.

The gala evening featured Asian entertainment, animal exhibits, a silent auction, dinner, and dancing. Proceeds from the affair will support the increasingly costly process of obtaining rare and endangered species, said ZooFari chairperson Anne Hamilton.

The Animal Acquisition Fund was named for Dr. Theodore H. Reed, who, among his many achievements as the Zoo's long-time (1958-1983) director, fostered the creation and growth of FONZ.

"The evening was a great success," Hamilton said of the May 16 gala, "but our work to support the Fund will go on all year."



Above: Among the happy partygoers were cartoonist Pat Oliphant (right), his wife Mary Ann Kuhn, and Dominick DiLorenzo of Singapore Airlines. Left: ZooFari chairperson Anne Hamilton and FONZ President Roscoe Moore greet retired NZP Director Theodore Reed, for whom the Animal Acquisition Fund was named.



Exotic Asian dances and a visit with Ling-Ling and Hsing-Hsing enlivened the evening.

Courtesy Freer Gallery, Smithsonian Institution



Courtesy Shin'en Kan Collection



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